INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Frank O'Bannon
Governor

Lori F. Kaplan
Commissioner

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P. O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
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June 30, 2003

TO: Interested Parties / Applicant

RE: PQ Corporation 019-17258-00018

FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision - Approval

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to 326 IAC 2, this approval was effective immediately upon submittal of the application.

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office Environmental Adjudication, ISTA Building, 150 W. Market Street, Suite 618, Indianapolis, IN 46204, **within eighteen (18) calendar days from the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

(1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
(2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
(3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

(1) the name and address of the person making the request;
(2) the interest of the person making the request;
(3) identification of any persons represented by the person making the request;
(4) the reasons, with particularity, for the request;
(5) the issues, with particularity, proposed for considerations at any hearing; and
(6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures

FNPERAM.wpd 8/21/02

June 30, 2003

Mr. Walter Fasold
PQ Corporation
P.O. Box 669
Jeffersonville, IN 47130

Re: 019-17258-00018
Second Administrative Amendment to
Part 70 019-7718-00018

Dear Mr. Fasold:

PQ Corporation was issued a Part 70 permit on March 28, 2002, for a stationary sodium silicate and sodium aluminosilicate manufacturing facility. A letter requesting an administrative amendment was received on May 8, 2003.

PQ Corporation submitted a request to add one (1) bin vent to the sand silo in order to allow moisture to escape and prevent lumping in the silo. The bin vent will operate in addition to the existing permitted baghouse.

The addition of the proposed bin vent will not cause any increases in production or emissions from the existing units.

Therefore, the emissions generated by the proposed vent are the particulate matter (PM) and PM10 emissions generated by the proposed vent.

Based on the emission estimates performed, the PM and PM10 UPTE are determined to be 4.00 and 4.00 tons/yr, respectively.

The PM and PM10 UPTE, each, are less than the 326 IAC 2-7-10.5 (d)(4)(A) Minor Source Modification applicable level of 5 tons/yr. In addition, there are no changes to any existing conditions that are required, and there are no new applicable requirements that are triggered.

Therefore, the proposed bin vent shall be incorporated into the existing Part 70 permit via an Administrative Amendment pursuant to 326 IAC 2-7-11(a)(7) which states that any changes to an existing Part 70 permit which consist solely of descriptive information where the revision will not trigger a new applicable requirement or violate a permit term, may be incorporated into the existing Part 70 permit via an Administrative Amendment.

To incorporate the proposed bin vent into the permit, the following changes shall be made. All added language indicated in bold type. All deleted information is struck-out.

(1) Condition A.2:

Condition A.2 shall be revised as follows to add the proposed bin vent to the unit description.

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

(a) Two (2) fire tube boilers (SG-1001 and SG-1002), constructed in 1991, each rated at seventeen and five-tenths (17.5) million British thermal units (MMBtu) per hour and exhausting at one (1) stack, identified as S-2. The boilers are fired by natural gas, No. 2 fuel oil and No. 4 fuel oil.

.....

(d) Material storage and handling facilities including:

(1) Aluminum trihydrate storage and transfer facilities consisting of one (1) pneumatic conveyor system equipped with a baghouse exhausting at stack S-3; one (1) 400 ton capacity storage silo equipped with a baghouse exhausting at stack S-4; and one (1) weigh bin with a maximum capacity of 12,580 pounds per hour equipped with a baghouse exhausting at stack S-5.

(2) Sodium silicate storage and transfer facilities consisting of a bucket conveyor system and one (1) 1,400 ton capacity storage silo equipped with a baghouse for particulate control exhausting at stack S-12.

(3) Sand and soda ash storage and transfer facilities consisting of one (1) 1,500 ton capacity storage silo for sand**, equipped with one (1) bin vent with a design grain loading of 0.0034 gr/dscf and design airflow rate 277 dscfm, with emissions from the bin vent being exhausted through stack SSBV,** and one (1) 940 ton capacity storage silo for soda ash, **with the emissions from** both **silos being controlled by** ~~connected to~~ one (1) baghouse**, with the sand storage emissions not exhausted through stack SSBV and soda ash storage emissions exhausted**~~ing~~ **through** ~~at~~ stack S-8; two (2) weigh hoppers connected to one (1) baghouse exhausting at stack S-7; and one (1) pneumatic conveying system for the transfer of sand and soda ash from the weigh hoppers to the furnace equipped with a baghouse.

.....

(2) Unit Description of Section D.4:

The unit description of Section D.4 shall be revised as follows to add the proposed bin vent.

SECTION D.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

(d) Material storage and handling facilities including:
.....

(3) Sand and soda ash storage and transfer facilities consisting of one (1) 1,500 ton capacity storage silo for sand**, equipped with one (1) bin vent with a design grain loading of 0.0034 gr/dscf and design airflow rate 277 dscfm, with emissions from the bin vent being exhausted through stack SSBV,** and one (1) 940 ton capacity storage silo for soda ash, **with the emissions from** both **silos being controlled by** ~~connected to~~ one (1) baghouse**, with the sand storage emissions not exhausted through stack SSBV and soda ash storage emissions exhausted**~~ing~~ **through** ~~at~~ stack S-8; two (2) weigh hoppers connected to one (1) baghouse exhausting at stack S-7; and one (1) pneumatic conveying system for the transfer of sand and soda ash from the weigh hoppers to the furnace equipped with a baghouse. .....

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

(3) Condition D.4.1:

Although the proposed bin vent is subject to the requirements of 326 IAC 6-1-2, no changes to Condition D.4.1 (the condition associated with 326 IAC 6-1-2) are necessary because the condition already states that the rule applies to all units associated with the storage and conveyance of sand, soda ash, sodium silicate, aluminum trihydrate, and sodium aluminosilicate. The proposed bin vent is part of the sand and soda ash storage and conveyance system.

All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this amendment and the following revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Scott Fulton at (800) 451-6027, press 0 and ask for Scott Fulton or extension 3-5691, or dial (317) 233-5691

Sincerely,

Original Signed by Paul Dubenetzky
Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments
SDF
cc: File - Clark County
U.S. EPA, Region V
Clark County Health Department
Air Compliance Section Inspector - Ray Schick
Compliance Data Section - Karen Nowak
Administrative and Development
Technical Support and Modeling - Michele Boner

PART 70 OPERATING PERMIT
OFFICE OF AIR QUALITY

PQ Corporation
7th Street and Missouri Avenue
Jeffersonville, Indiana 47130

(Herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T019-7718-00018	Date Issued: March 28, 2002

First Administrative Amendment No.: 019-16660-00018	Date Issued: February 11, 2003

Second Administrative Amendment No.: 019-17258-00018	Affected Pages: 5, 6, 36, 37, 38, with 6a and 38a added
Issued by: Original Signed by Paul Dubenetzky Paul Dubenetzky Branch Chief Office of Air Quality	Issued: June 30, 2003

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)] [326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary sodium silicate and sodium aluminosilicate manufacturing facility.

Responsible Official:	Walter Fasold
Source Address:	7th Street and Missouri Avenue, Jeffersonville, Indiana 47130
Mailing Address:	P.O. Box 669, Jeffersonville, Indiana 47130
Source Phone Number:	(812) 288-7186
SIC Code:	2819
County Location:	Clark
Source Location Status:	Nonattainment for ozone Attainment for all other criteria pollutants
Source Status:	Part 70 Permit Program Minor Source, under Emission Offset Rules; Major Source, Section 112 of the Clean Air Act 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

(a) Two (2) fire tube boilers (SG-1001 and SG-1002), constructed in 1991, each rated at seventeen and five-tenths (17.5) million British thermal units (MMBtu) per hour and exhausting at one (1) stack, identified as S-2. The boilers are fired by natural gas, No. 2 fuel oil and No. 4 fuel oil.

(b) One (1) natural gas-fired dryer, constructed in 1991, rated at ten (10) million British thermal units (MMBtu) per hour and exhausting through a baghouse separator at stack S-6. The dryer uses propane as a backup fuel. This dryer is an insignificant source when burning natural gas.

(c) One (1) melting furnace with a maximum heat input capacity of 19.7 MMBtu per hour, fired by natural gas or fuel oil, and exhausting at stack S-1. The furnace is fired using natural gas, No. 2 fuel oil and No. 4 fuel oil. The furnace was constructed in 1938 and rebuilt in 1998 and 2003.

(d) Material storage and handling facilities including:

(1) Aluminum trihydrate storage and transfer facilities consisting of one (1) pneumatic conveyor system equipped with a baghouse exhausting at stack S-3; one (1) 400 ton capacity storage silo equipped with a baghouse exhausting at stack S-4; and one (1) weigh bin with a maximum capacity of 12,580 pounds per hour equipped with a baghouse exhausting at stack S-5.
(2) Sodium silicate storage and transfer facilities consisting of a bucket conveyor system and one (1) 1,400 ton capacity storage silo equipped with a baghouse for particulate control exhausting at stack S-12.
(3) Sand and soda ash storage and transfer facilities consisting of one (1) 1,500 ton capacity storage silo for sand, equipped with one (1) bin vent with a design grain loading of 0.0034 gr/dscf and design airflow rate 277 dscfm, with emissions from the bin vent being exhausted through stack SSBV, and one (1) 940 ton capacity storage silo for soda ash, with the emissions from both silos being controlled by one (1) baghouse, with the sand storage emissions not exhausted through stack SSBV and soda ash storage emissions exhausted through stack S-8; two (2) weigh hoppers connected to one (1) baghouse exhausting at stack S-7; and one (1) pneumatic conveying system for the transfer of sand and soda ash from the weigh hoppers to the furnace equipped with a baghouse.
(4) Sodium aluminosilicate transfer, storage, and loading facilities consisting of a pneumatic conveyor system for transfer to the storage silos, equipped with one (1) baghouse separator for particulate control exhausting at stack S-6; two (2) 625 ton capacity storage silos each equipped with one (1) baghouse for particulate control exhausting at stacks S-9 and S-10; and one (1) pneumatic conveyor system for truck and rail car loading, equipped with a baghouse for particulate control exhausting at stack S-11.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

(a) Paved and unpaved roads and parking lots with public access [326 IAC 6-5].

(b) Degreasing operations that do not exceed 145 gallons per 12 months [326 IAC 8-3-5]

(c) Other emission units and activities with potential emissions below the threshold in 326 IAC 2-7-1(21):

(1) Aluminum trihydrate unloading operations emitting less than five (5) pounds per hour of particulate matter [326 IAC 6-3-2].

(2) Sand and soda ash unloading operations emitting less than five (5) pounds per hour of particulate matter [326 IAC 6-3-2].

(3) Sodium Silicate unloading operations emitting less than five (5) pounds per hour of particulate matter [326 IAC 6-3-2].

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22); and

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION D.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

(d) Material storage and handling facilities including:

(1) Aluminum trihydrate storage and transfer facilities consisting of one (1) pneumatic conveyor system equipped with a baghouse exhausting at stack S-3; one (1) 400 ton capacity storage silo equipped with a baghouse exhausting at stack S-4; and one (1) weigh bin with a maximum capacity of 12,580 pounds per hour equipped with a baghouse exhausting at stack S-5.

(2) Sodium silicate storage and transfer facilities consisting of a bucket conveyor system and one (1) 1,400 ton capacity storage silo equipped with a baghouse for particulate control exhausting at stack S-12.

(3) Sand and soda ash storage and transfer facilities consisting of one (1) 1,500 ton capacity storage silo for sand, equipped with one (1) bin vent with a design grain loading of 0.0034 gr/dscf and design airflow rate 277 dscfm, with emissions from the bin vent being exhausted through stack SSBV, and one (1) 940 ton capacity storage silo for soda ash, with the emissions from both silos being controlled by one (1) baghouse, with the sand storage emissions not exhausted through stack SSBV and soda ash storage emissions exhausted through stack S-8; two (2) weigh hoppers connected to one (1) baghouse exhausting at stack S-7; and one (1) pneumatic conveying system for the transfer of sand and soda ash from the weigh hoppers to the furnace equipped with a baghouse.

(4) Sodium aluminosilicate transfer, storage, and loading facilities consisting of a pneumatic conveyor system for transfer to the storage silos, equipped with one (1) baghouse separator for particulate control exhausting at stack S-6; two (2) 625 ton capacity storage silos each equipped with one (1) baghouse for particulate control exhausting at stacks S-9 and S-10; and one (1) pneumatic conveyor system for truck and rail car loading, equipped with a baghouse for particulate control exhausting at stack S-11.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Particulate Matter (PM) [326 IAC 6-1-2(a)]

Pursuant to 326 IAC 6-1-2(a) (Nonattainment Area Particulate Emission Limitations for General Sources), the particulate matter emissions from the storage and conveyance of sand , soda ash, sodium silicate, aluminum trihydrate, and sodium aluminosilicate shall be limited to 0.03 grains per dry standard cubic foot.

Compliance Determination Requirements

D.4.2 Particulate Matter (PM)

Pursuant to OP10-11-89-0224, issued on March 27, 1987, and CP 019-2014-00018, issued on September 18, 1991, and in order to comply with Condition D.4.1, the baghouses (exhausting to Stacks S-3, S-4, S-5, S-6, S-7, S-8, S-9, S-10, S-11 and S-12) for PM control shall be in operation and control emissions from the storage and conveyance of sand, soda ash, aluminum trihydrate, sodium silicate, and sodium aluminosilicate at all times that the sodium silicate or sodium aluminosilicate production facilities are in operation.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.4.3 Visible Emissions Notations

(a) Visible emission notations of stack exhausts S-3, S-4, S-5, S-6, S-7, S-8, S-9, S-10, S-11 and S-12 shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

D.4.4 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouses used in conjunction with the storage and conveyance of sand, soda ash, aluminum trihydrate, sodium silicate, and sodium aluminosilicate, at least once per shift when the material storage and conveyance systems are in operation when venting to the atmosphere. When for any one reading, the pressure drop across the baghouses exhausting at stacks S-3, S-4, S-5, S-8, S-9, S-10, S-11, and S-12 is outside the normal range of 3.0 and 6.0 inches of water or a range established during the latest stack test the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. When for any one reading, the pressure drop across the baghouse exhausting at stack S-6 is outside the normal range - 6.0 and 6.0 inches of water or a range established during the latest stack test the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. When forany one reading the pressure drop across the baghouse exhausting at stack S-7 is outside the normal range of 0 to 6.0 inches of water or a range established during the latest stack test the Permittee shall take reasonable response steps in accordance with Section C - compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit.

Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.4.5 Baghouse Inspections

An inspection shall be performed each calender quarter of all bags controlling the material storage and conveyance systems when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.4.6 Broken or Failed Bag Detection

In the event that bag failure has been observed:

(a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if there are no visible emissions or if the event qualifies as an emergency and the Permittee satisfies the emergency provisions of this permit (Section B - Emergency Provisions). Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C-Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

(b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.4.7 Record Keeping Requirements

(a) To document compliance with Condition D.4.3, the Permittee shall maintain records of visible emission notations of the exhaust from stacks S-3, S-4, S-5, S-6, S-7, S-8, S-9, S-10, S-11 and S-12 once per shift.

(b) To document compliance with Condition D.4.4, the Permittee shall maintain the following:

(1) Once per shift records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle operation

(2) Documentation of the dates vents are redirected.

(c) To document compliance with Conditions D.4.5, the Permittee shall maintain records of the inspections of the baghouse required under Condition D.4. 5 and any resulting bag placement.

(d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for an Administrative Amendment to an Existing Part 70 Permit

Source Background and Description

Source Name:	PQ Corporation
Source Location:	7th Street and Missouri Avenue, Jeffersonville, Indiana 47130
County:	Clark
SIC Code:	2819
Operation Permit No.:	019-7718-00018
Date Issued:	March 28, 2002
1st Administrative Amendment No.:	019-17258-000018
Permit Reviewer:	SDF

The Office of Air Quality (OAQ) has reviewed an application from PQ Corporation relating to the operation of their stationary sodium silicate and sodium aluminosilicate manufacturing operation.

Request

On May 8, 2003, PQ Corporation submitted a request to add one (1) bin vent to the sand silo in order to allow moisture to escape and prevent lumping in the silo. The bin vent will operate in addition to the existing permitted baghouse.

The addition of the proposed bin vent will not cause any increases in production or emissions from the existing units.

Therefore, the emissions generated by the proposed vent are the particulate matter (PM) and PM10 emissions generated by the proposed vent.

Based on the emission estimates performed, the PM and PM10 UPTE are determined to be 4.00 and 4.00 tons/yr, respectively.

The PM and PM10 UPTE, each, are less than the 326 IAC 2-7-10.5 (d)(4)(A) Minor Source Modification applicable level of 5 tons/yr. In addition, there are no changes to any existing conditions that are required, and there are no new applicable requirements that are triggered.

Therefore, the proposed bin vent shall be incorporated into the existing Part 70 permit via an Administrative Amendment pursuant to 326 IAC 2-7-11(a)(7) which states that any changes to an existing Part 70 permit which consist solely of descriptive information where the revision will not trigger a new applicable requirement or violate a permit term, may be incorporated into the existing Part 70 permit via an Administrative Amendment.

Existing Approvals

The source has been operating under Part 70 permit 019-7718-00018, issued on March 28, 2002 and First Administrative Amendment 019-16660-00018, issued on February 11, 2003.

Recommendation

The staff recommends to the Commissioner that the Administrative Amendment be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application.

Emission Calculations

The emissions generated by the proposed modification are the proposed vent PM and PM10 emissions. The following calculations determine the unrestricted potential to emit (UPTE) and emissions after controls.

(1) Unrestricted Potential to Emit (UPTE):

The following calculations determine the PM and PM10 UPTE due to the modification based on a maximum design grain loading of 0.0034 gr/dscf, a maximum design airflow rate of 277 dscfm, 7000 grains per pound, an overall control efficiency of 99%, emissions before controls, and 8760 hours of operation.

0.0034 gr/dscf * 277 dscf/min * 60 min/hr * 8760 hr/yr * 1/7000 lb/gr * 1/2000 ton/lb = 0.04 tons PM/yr

(1 - 0.99) * X tons PM/yr = 0.04 tons PM/yr
X tons PM/yr = 0.04 tons PM/yr / 0.01
X = 4.00 tons PM/yr

PM10 is determined to be equal to PM in this case.

(2) Emissions After Controls:

The following calculations determine the PM and PM10 emissions after controls due to the modification based on a maximum design grain loading of 0.0034 gr/dscf, a maximum design airflow rate of 277 dscfm, 7000 grains per pound, and 8760 hours of operation.

0.0034 gr/dscf * 277 dscf/min * 60 min/hr * 8760 hr/yr * 1/7000 lb/gr * 1/2000 ton/lb = 0.04 tons PM/yr

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA.”

This table reflects the PTE before controls due to the modification based on the above estimated emissions calculations. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	4.00
PM-10	4.00
SO_2	-
VOC	-
CO	-
NO_x	-

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

The PM and PM10 UPTE, each, are less than the 326 IAC 2-7-10.5 (d)(4)(A) Minor Source Modification applicable level of 5 tons/yr. In addition, there are no changes to any existing conditions that are required, and there are no new applicable requirements that are triggered.

Therefore, the proposed bin vent shall be incorporated into the existing Part 70 permit via an Administrative Amendment pursuant to 326 IAC 2-7-11(a)(7) which states that any changes to an existing Part 70 permit which consist solely of descriptive information where the revision will not trigger a new applicable requirement or violate a permit term, may be incorporated into the existing Part 70 permit via an Administrative Amendment.

County Attainment Status

The source is located in Clark County.

Pollutant	Status
PM_{10}	attainment or unclassifiable
SO_2	attainment or unclassifiable
NO_2	attainment or unclassifiable
Ozone	attainment or unclassifiable
CO	attainment or unclassifiable
Lead	attainment or unclassifiable

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Clark County has been designated as attainment or unclassifiable for ozone. Therefore, the VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration, 326 IAC 2-2.

(b) Clark County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Source Status

Source Emissions (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited), as obtained from the Technical Support Document (TSD) of Part 70 permit 019-7718-00018, issued on March 28, 2002:

Unit	PM (tons/yr)	PM10 (tons/yr)	SO2 (tons/yr)	NOx (tons/yr)	VOC (tons/yr)	CO (tons/yr)	Worst Case Single HAP (tons/yr)	Comb. HAPs (tons/yr)
Boilers	7.40	7.40	78.80	98.00	0.84	12.88	<10	neg.
Furnace	24.80	23.70	95.80	-	3.00	3.00	<10	neg.
Dryer	0.33	0.33	0.03	-	0.24	3.70	<10	neg.
Storage and Handling	2.04	2.04	-	-	-	-	-	-
Source	34.57	33.47	174.63	98.00	4.08	19.58	<10	neg.

PSD Major Levels	250	250	250	250	250	250	-	-
Part 70 Major Levels	-	100	100	100	100	100	10	25

(a) The combined natural gas usage from the boilers, furnace and dryer were limited to 180 mmcf/yr which, combined with the other existing emissions, limitations and standards, limited the source emissions to 98 tons/yr.

(b) The furnace particulate matter emissions from the furnace were limited to 1.4 pounds per ton of sodium silicate produced which, combined with the other existing emissions, limitations, and standards, limited the source PM emissions to 34.57 tons/yr.

(c) The existing source is not a major PSD stationary source because no criteria pollutant emissions are greater than the applicable level or 250 tons per year or more and it is not one of the 28 listed source categories.

(d) This source is a Part 70 major stationary source because the source SO2 emissions exceed the applicable level of 100 tons per year.

Emissions After the Modification

Emissions after the modification based on emissions after controls and 8760 hours of operation per year at rated capacity, and after implementation of all applicable limits and standards:

Unit	PM (tons/yr)	PM10 (tons/yr)	SO2 (tons/yr)	NOx (tons/yr)	VOC (tons/yr)	CO (tons/yr)	Worst Case Single HAP (tons/yr)	Comb. HAPs (tons/yr)
Existing Source	34.57	33.47	174.63	98.00	4.08	19.58	<10	neg.
Modification	0.04	0.04	-	-	-	-	-	-
	34.61	33.51	174.63	98.00	4.08	19.58	<10	neg.

PSD Major Levels	250	250	250	250	250	250	-	-
Part 70 Major Levels	-	100	100	100	100	100	10	25

(a) The source after the proposed modification is still not a major PSD stationary source because no criteria pollutant emissions are greater than the applicable level or 250 tons per year or more and it is not one of the 28 listed source categories.

(b) This source after the proposed modification is still a Part 70 major stationary source because the source SO2 emissions exceed the applicable level of 100 tons per year.

Federal Rule Applicability

(a) New Source Performance Standards (NSPS):

The boilers are still subject to the requirements of 40 CFR 60, Subpart Dc. The proposed bin vent will have no impact on the current requirements.

(b) National Emission Standards for Hazardous Air Pollutants (NESHAPs):

There are still no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Parts 61 and 63) applicable to this source.

State Rule Applicability

(a) Entire State Rule Applicability:

(1) 326 IAC 1-7 (Stack Height Provisions):

The stack height provisions of 326 IAC 1-7 still apply. The proposed bin vent will not affect the status of these requirements.

(2) 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)):

The PSD requirements under 326 IAC 2-2 still do not apply because no criteria pollutant emissions after the proposed modification exceed the applicable level of 250 tons per year.

(3) 326 IAC 2-6 (Emission Reporting):

The emission reporting requirements of 326 IAC 2-6 still apply because the source NOx emissions (98 tons per year) are greater than the Clark County applicable level of 10 tons per year.

(4) 326 IAC 2-7-5(13) (Preventive Maintenance Plan)

The 326 IAC 2-7-5(13) preventive maintenance plan requirements still apply. The proposed bin vent will not affect the status of these requirements.

(5) 326 IAC 4-1 (Open Burning):

The requirements of 326 IAC 4-1 still apply. The proposed bin vent will not affect the status of these requirements.

(6) 326 IAC 5-1 (Visible Opacity Limitations):

The requirements of 326 IAC 5-1 still apply. The proposed bin vent will not affect the status of these requirements.

(7) 326 IAC 6-4 (Fugitive Dust Emissions):

The fugitive dust requirements of 326 IAC 6-4 still apply. The proposed bin vent will not affect the status of these requirements.

(8) 326 IAC 6-5 (Fugitive PM Emissions):

The fugitive PM emission requirements of 326 IAC 6-5 still apply. The proposed bin vent will not affect the status of these requirements.

(b) Individual Unit Sate Rules, Proposed Bin Vent:

326 IAC 6-1 (Particulate Matter):

The requirements of 326 IAC 6-1 apply to the proposed bin vent because the bin vent will be located in Clark County, one of the proposed counties listed in 326 IAC 6-1-7.

Since the proposed bin vent is located in Clark County, one of the proposed counties listed in 326 IAC 6-1-7, but is not specifically listed in 326 IAC 6-1-7, and the source unrestricted potential to emit (UPTE) (2,074 tons/yr) is greater than 100 tons/yr, the bin vent is subject to the requirements of 326 IAC 6-1-2.

Pursuant to 326 IAC 6-1-2(a), the particulate matter emissions from the bin vent shall be limited to 0.03 gr/dscf.

The maximum design grain loading is 0.0034 gr/dscf which is less than the limit of 0.03 gr/dscf. Therefore, compliance is determined to be achieved.

Changes to the Permit

The following lists the changes to the existing permit that are necessary to incorporate the proposed bin vent into the permit. All added language indicated in bold type. All deleted information is struck-out.

(1) Condition A.2:

Condition A.2 shall be revised as follows to add the proposed bin vent to the unit description.

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

(a) Two (2) fire tube boilers (SG-1001 and SG-1002), constructed in 1991, each rated at seventeen and five-tenths (17.5) million British thermal units (MMBtu) per hour and exhausting at one (1) stack, identified as S-2. The boilers are fired by natural gas, No. 2 fuel oil and No. 4 fuel oil.

.....

(d) Material storage and handling facilities including:

(1) Aluminum trihydrate storage and transfer facilities consisting of one (1) pneumatic conveyor system equipped with a baghouse exhausting at stack S-3; one (1) 400 ton capacity storage silo equipped with a baghouse exhausting at stack S-4; and one (1) weigh bin with a maximum capacity of 12,580 pounds per hour equipped with a baghouse exhausting at stack S-5.
(2) Sodium silicate storage and transfer facilities consisting of a bucket conveyor system and one (1) 1,400 ton capacity storage silo equipped with a baghouse for particulate control exhausting at stack S-12.
(3) Sand and soda ash storage and transfer facilities consisting of one (1) 1,500 ton capacity storage silo for sand**, equipped with one (1) bin vent with a design grain loading of 0.0034 gr/dscf and design airflow rate 277 dscfm, with emissions from the bin vent being exhausted through stack SSBV,** and one (1) 940 ton capacity storage silo for soda ash, **with the emissions from** both **silos being controlled by** ~~connected to~~ one (1) baghouse**, with the sand storage emissions not exhausted through stack SSBV and soda ash storage emissions exhausted**~~ing~~ **through** ~~at~~ stack S-8; two (2) weigh hoppers connected to one (1) baghouse exhausting at stack S-7; and one (1) pneumatic conveying system for the transfer of sand and soda ash from the weigh hoppers to the furnace equipped with a baghouse.

.....

(2) Unit Description of Section D.4:

The unit description of Section D.4 shall be revised as follows to add the proposed bin vent.

SECTION D.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

(d) Material storage and handling facilities including:
.....

(3) Sand and soda ash storage and transfer facilities consisting of one (1) 1,500 ton capacity storage silo for sand**, equipped with one (1) bin vent with a design grain loading of 0.0034 gr/dscf and design airflow rate 277 dscfm, with emissions from the bin vent being exhausted through stack SSBV,** and one (1) 940 ton capacity storage silo for soda ash, **with the emissions from** both **silos being controlled by** ~~connected to~~ one (1) baghouse**, with the sand storage emissions not exhausted through stack SSBV and soda ash storage emissions exhausted**~~ing~~ **through** ~~at~~ stack S-8; two (2) weigh hoppers connected to one (1) baghouse exhausting at stack S-7; and one (1) pneumatic conveying system for the transfer of sand and soda ash from the weigh hoppers to the furnace equipped with a baghouse. .....

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

(3) Condition D.4.1:

Although the proposed bin vent is subject to the requirements of 326 IAC 6-1-2, no changes to Condition D.4.1 (the condition associated with 326 IAC 6-1-2) are necessary because the condition already states that the rule applies to all units associated with the storage and conveyance of sand, soda ash, sodium silicate, aluminum trihydrate, and sodium aluminosilicate. The proposed bin vent is part of the sand and soda ash storage and conveyance system.

Conclusion

The proposed bin vent shall be constructed and operated according to the provisions of this administrative amendment, the existing permit, First Administrative Amendment 019-16660-00018, and all other existing source approvals.